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ON

# THE SPREAD OF INFLUENZA

BY

## CONTAGION,

By RICHARD SISLEY, M.D. (Lond.), M.R.C.P. (Lond.),

READ BEFORE THE

EPIDEMIOLOGICAL SOCIETY, MAY 20, 1891.



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From the author.

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ON  
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Read before the Epidemiological Society, May 20, 1891.



Sir James Moore, in a paper which he recently read before the Epidemiological Society, strongly pointed out the injurious effect of attaching too much importance to "authority" in matters of science. I have lately been much struck by the truth of this observation.

Until the occurrence of the epidemic of Influenza in 1889-90 very few living physicians knew from personal observation anything about the disease or its method of spread. They had, therefore, to rely on the teaching of the past, and I think many of them attached almost implicit reliance on the statements of Sir Thomas Watson, many of whose observations they have been able to verify in the case of other diseases, and whose writings possess a charm which is certainly absent in current medical text books.

On the method of the spread of Influenza Watson taught that contagion played but a small part. "I have remarked," he says, "that Cullen makes this species of catarrh to proceed from contagion. But the visitation is a great deal too sudden and too widely spread to be capable of explanation in that way. The occurrence of epidemic catarrh, as well as of most other epidemics, is unquestionably connected with some particular state or contamination of the atmosphere. . . ."

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\* "Lectures on the Principles and Practice of Physic." Lond., 1853. Vol. II., p. 41.

This teaching was, I think, generally accepted, and Watson's classical description of the disease, as it occurred in 1837, was extensively quoted. But the Epidemic of 1889-90 was by no means a sudden visitation. There were isolated cases in different parts of this town long before there was any general infection of the population. Many of the first sufferers were seized immediately after their return from Paris, and some of the first cases I saw were patients from hotels where foreign travellers had been staying.

Early in the epidemic facts came to my notice which pointed to contagion as an important means by which the disease was spread. The infection in the earliest case recorded in England\* was, I believe, contracted at a Christmas party, and I felt convinced that I took the disease from this patient. Early in January, whilst I was out of town trying to get over the effects of the malady, I was called to see a lady who had a recurrence of the disease. A young lady who was staying with her (and who was much in her company both by day and night) soon took the disease, and in her turn, as it seemed to me, communicated it to a servant who was with her in a house to which she afterwards went. These observations are not in themselves striking, and I only quote them because they inclined me to the view that the disease was contagious, and that idea, together with a knowledge of the fact that Influenza in London occurred at first in isolated centres, led me to take an interest in the general spread of the disorder through England, and I became doubtful about the truth of the conclusions arrived at by Watson as to the method of the spread of the malady. I look forward to the report of the Local Government Board, which will, doubtless, be of great use in showing (1) the

\* "Lancet," Jan 4, 1890.

date of the first appearance of the disease in different parts of the country; (2) how far the first cases occurred in people who had come from infected places; (3) how long a time elapsed between the first appearance of the disease and the general infection of the population. Until the report is published, we must content ourselves with the information at present at our disposal, and, fortunately, the newspapers both of town and of country districts give many facts.

Without relying too confidently on the absolute accuracy of this information, and making allowance for possible errors, we are able to get a general view of the progress of the epidemic.

Edinburgh it seems was affected about the same time as London and Colchester. Canterbury and Portsmouth suffered early in January. The disease was spreading in Devonshire and Monmouth during the first week in February, and was raging in Wales as late as March.

At Chelmsford, Durham, and Bury isolated cases occurred before there was a general infection of the population, and at the latter place people living in the town were affected before the inhabitants of the surrounding villages suffered.

In Nottingham and Birmingham the railway servants were the people first affected.

It would be tedious and useless to give a full analysis of the information given in a collection of many hundreds of newspaper cuttings; but a careful consideration of the material at my disposal convinces me that towns were generally affected earlier than country districts, and the more remote parts of the country later than places near London; that in many towns there is distinct evidence that the disease first occurred in isolated centres; that there is no evidence of the sudden seizure of a large



number of people without the previous existence of isolated cases of the disease; finally, that where there was little human intercourse, villages and country districts directly between large towns, often escaped infection till some time after the towns were affected.

The last-mentioned observation disproves the theory that the infection is entirely wind-borne. A valuable observation bearing on this matter was made during the Epidemic of 1782, and was recorded by Dr. Gray on the authority of Dr. Ruston, of Exeter. Writing of the spread of the disease, he says: "At Dartmouth it began much sooner, and at Timmouth, which lies between both, much later, than at Exeter." \*

I do not think that the importance of such facts can be overlooked in a consideration of the method of spread of the disease; *i.e.*, as to whether personal contact or what is called aerial infection forms the chief means of conveyance.

The idea that contagion plays a great part in the spread of the disorder is a very old one, and as early as 1743, when Rome was affected, the Pope ordered a land quarantine to check its spread. In the same year at Messina a ship suspected of being the means of conveying the disease was burnt, and all letters from foreign parts were perfumed.†

The records of the old English medical writers are full of facts pointing to the spread of Influenza by contagion.

In 1782, according to the evidence of Dr. Clark, the disease was imported to Shields from London by a ship.‡

\* "Medical Communications," Vol. I., p. 61, note. London, 1784.

† "Gentlemen's Magazine," Vol. XIII.

‡ "Medical Communications," Vol. I., p. 63, note. London, 1784.

In the same year the first two patients who suffered from the disorder at Norwich were people who had lately arrived from London, where it was then raging.

Dr. Haygarth, of Chester, gave many similar examples. In answer to a question as to the introduction of the disease, he wrote :

“1. That the first patient who had the disease in Frodsham was seized with it as he was returning thither from Manchester. 2. That at Malpas, the first patient was the landlady of the inn and her family, a week sooner than any other patient in the town. 3. That the first person who had the distemper in Middlewich brought it from Liverpool. 4. That the first person affected with the Influenza at Mold had been at Chester a few days before, in a family ill of the distemper. 5. That a gentleman arrived at Oswestry ill of the Influenza before the inhabitants were attacked. 6. That at Tarporley the first person seized was a postillion who had driven a chaise thither from Warrington, where the distemper had previously appeared. 7. That at Wrexham the first patient came from Chester, and the second from Shrewsbury.”\*

In the Epidemic of 1803 similar cases were reported from Exeter, Cirencester, and other places, and there was evidence that the disease was imported into the Isle of Man by a Liverpool packet.

During the late epidemic, I think sufficient importance was not attached to the contagious nature of the disease, and many medical men thought that direct infection played quite a subordinate part in the spread of the malady, or even that the disorder was not contagious at

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\* “Annals of Influenza or Epidemic Catarrhal Fever in Great Britain from 1510 to 1837.” Prepared and edited by Theophilus Thompson, M.D., F.R.S. Lond., 1852. I have been unable to verify this quotation by referring to Dr. Haygarth’s paper.

all. Thus, the report issued by the Local Government Board for Ireland contains the following passage :—

“ On the subject of the origin and mode of extension of the epidemic in Ireland, the views expressed by medical officers differ, but that a general consensus of opinion to the effect that the disease was of a miasmatic character, that it was air-borne, that it was preceded and accompanied by high temperature and moist atmosphere. A small number of observers consider it infectious and contagious, but the great majority were of opinion that it was not.”

Dr. William Squire in an article on “The Infection of Epidemic Influenza,”\* after reviewing the evidence he gave, came to the conclusion that “the balance seems rather to be against direct infection as a frequent or potent cause of the spread of Influenza.”

The members of the Medical Officers of Schools Association, who had excellent opportunities for investigating the subject, came to a diametrically opposite conclusion, and most of them believed that contagion played a great part in the spread of the disease.† In a valuable paper which was published in the XLIVth Volume of the “Practitioner,”‡ Dr. Delépine recorded cases which pointed strongly to direct infection as a cause of spread of Influenza, and gave a careful analysis of the numbers of the cases which occurred at Broadwood’s Piano Manufactory, and the dates on which the patients were seized with the disease.

Several carefully observed cases which point the importance of contagion in the spread of Influenza have been recorded by French observers. Dr. Danguy des

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\* “Lancet,” April 19, 1890.

† “Brit. Med. Jour.,” May 3, 1890.

‡ “Is Influenza a contagious or a miasmatic disease?”



Déserts\* reports that an outbreak on "La Bretagne," a training ship at Brest, immediately followed the exposure of the crew to contagion from an officer who went on board suffering from the disease. Professor Grasset† has also shown on the authority of Dr. Bordone, of Frontignan, that the origin of the outbreak in that town could be traced to infection from a merchant who returned from Paris suffering from the disorder, and who gave a dinner party to 10 people, five of whom were seized with the disease within two days. These were the first sufferers in Frontignan. Dr. Vedel, of Lunel, communicated to Professor Grasset‡ an account of the origin and spread of Influenza in that place, and Professor Bouchard has put on record the observations of Dr. Tueffart, of Montbéliard. These teach the same lesson. I think, however, that I have said enough to show that the disease is contagious.

With regard to the spread by parcels there is less evidence.

Dr. Mease wrote in 1782,§ "I have no shadow of doubt that the disorder was contagious, and am certain I myself received the infection from a small trunk of wearing apparel which came from Dublin where it then raged. I may add that this was the first introduction of it into the town."

Dr. Danguy des Déserts|| has recorded a case pointing strongly to the conclusion that infection was conveyed by means of a parcel of goods from Paris to an officer at Brest.

\* "Semaine Médicale," 1890, p. 5.

† "Semaine Médicale," 1890, p. 4.

‡ "Leçons sur la Grippe de l'Hiver," 1889-90. Par le Professeur Grasset, Montpellier, 1890, p. 31.

§ "Medical Communications," Vol. I., p. 56.

|| "Semaine Médicale," 1890, p. 5.

More evidence on this point is much needed, and I should be very grateful for any fresh information on the subject. The matter is of great importance, for if the spread by goods were distinctly proved it might explain some of the outbreaks which have occurred on ships at sea.

To sum up the conclusions at which I have arrived :—

1. There is no doubt that the disease is contagious.
2. Isolated cases precede a general infection of the community.
3. The part played by contagion in the spread of the disease is most important.
4. There is some evidence in favour of spread of Influenza by goods.
5. Influenza is not spread in England by a preliminary "contamination of the atmosphere," but the atmosphere is contaminated by individuals who suffer from Influenza.



*[In preparation, and will be published shortly.]*

**Epidemic Influenza : Notes on its Origin and Method of Spread.**

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